

## Tech Center research vital to safely fly COVID vaccines to world

Michelle Brunetti Post

EGG HARBOR TOWNSHIP — Dry ice is widely known as the substance that creates the illusion of smoke in theater productions, but it is also used to keep things very cold — like COVID-19 vaccines.

When a lot of vaccine had to be transported quickly all over the world, there were concerns about the safety of dry ice — the solid form of carbon dioxide — and how it might affect pilots and others as it heated up and released CO<sub>2</sub> gas, said Shelley Yak, director of the Federal Aviation Administration’s William J. Hughes Tech Center here.

The tech center stepped in to help.

“Through our research, the FAA was able to give guidelines on what levels of dry ice they can safely transport,” Yak said. “We did it in record time.”

It is one part of a complex web of research done at the tech center, Yak said.

She talked about the work of the center Friday, a few days after releasing an **updated study** showing the FAA and its tenants pump about \$900 million a year into the economy of South Jersey’s seven counties, roughly double the amount of just five years ago, and provide 5,240 jobs.

The economic impact of the center is studied every few years, after something changes and the center needs to get a handle on how those changes play out, Yak said. This study was spurred by the addition of the National Aviation Research and Technology Park’s first building opened in 2019, and by the expansion of activities by the Federal Air Marshals Service, according to the report. They are two of seven major tenants of the FAA.

Almost 70% of the economic benefits occurred within Atlantic County, the report said.

Yak said Friday that it’s important for people who live in the region to know the facilities’ impact, and to understand the importance of the work that goes on there.

The work on what’s called “dry ice sublimation” — or what happens when dry ice moves from its solid to gaseous form — was done by the same tech center research group that has researched how to safely fly lithium batteries, Yak said.

Lithium batteries have been known to start fires on aircraft.

“(Lithium batteries) going into thermal runaway is not something you want to happen in the cargo of aircraft,” Yak said. “We have been assessing what does it take to go into it, and how to prevent it. Now we are also doing research on halon (a fire suppressant gas used in cargo holds) and how to put out fires more effectively if they occur.”

The center has also spearheaded development of the Next Generation Air Transportation System, called NextGen. It is the FAA's "modernization of America's air transportation system to make flying even safer, more efficient and predictable," according to the FAA website.

Work done at the center includes improving communication between pilots and air traffic controllers so routes can be shortened for safety and fuel savings, Yak said.

Among many other things, their work allowed communication to happen via texts rather than voice only, Yak said, lessening the chance of miscommunication.

"I love to talk about our core work. ... The work is who we are and what we do," Yak said. "But, it's the jobs, people and employees that make a difference to the local region."

Yak said the workforce at the tech center and its tenants ... includes a lot of people with college degrees that bring in higher incomes and give back to their communities.

The center also provides opportunities for high school and college students to get internships and learn about the aviation industry and STEM careers in general, she said.

The report, "The Economic Impact of the William J. Hughes Technical Center on Southern New Jersey: Update 2020," was released in October and looked at the economic effects of the tech center and its tenants in 2019. It was prepared by Robert D. Niehaus, Inc. of Santa Barbara, California.

Tenants include the Atlantic City International Airport, the National Aviation Technology and Research Park, the New Jersey Air National Guard's 177th and more.

The 2020 report updated previous economic analyses of the center completed in 1999, 2002, and 2015.